

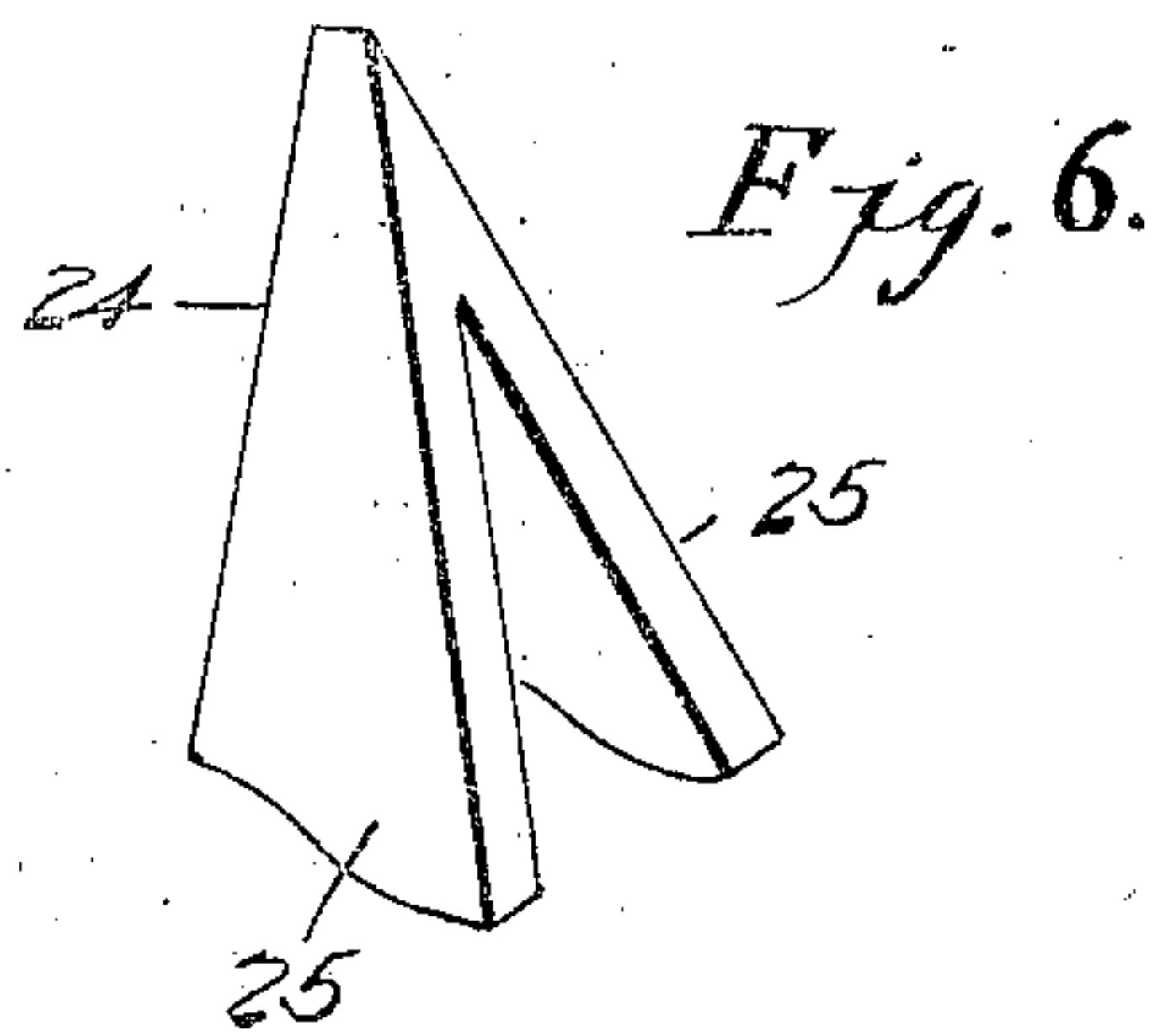
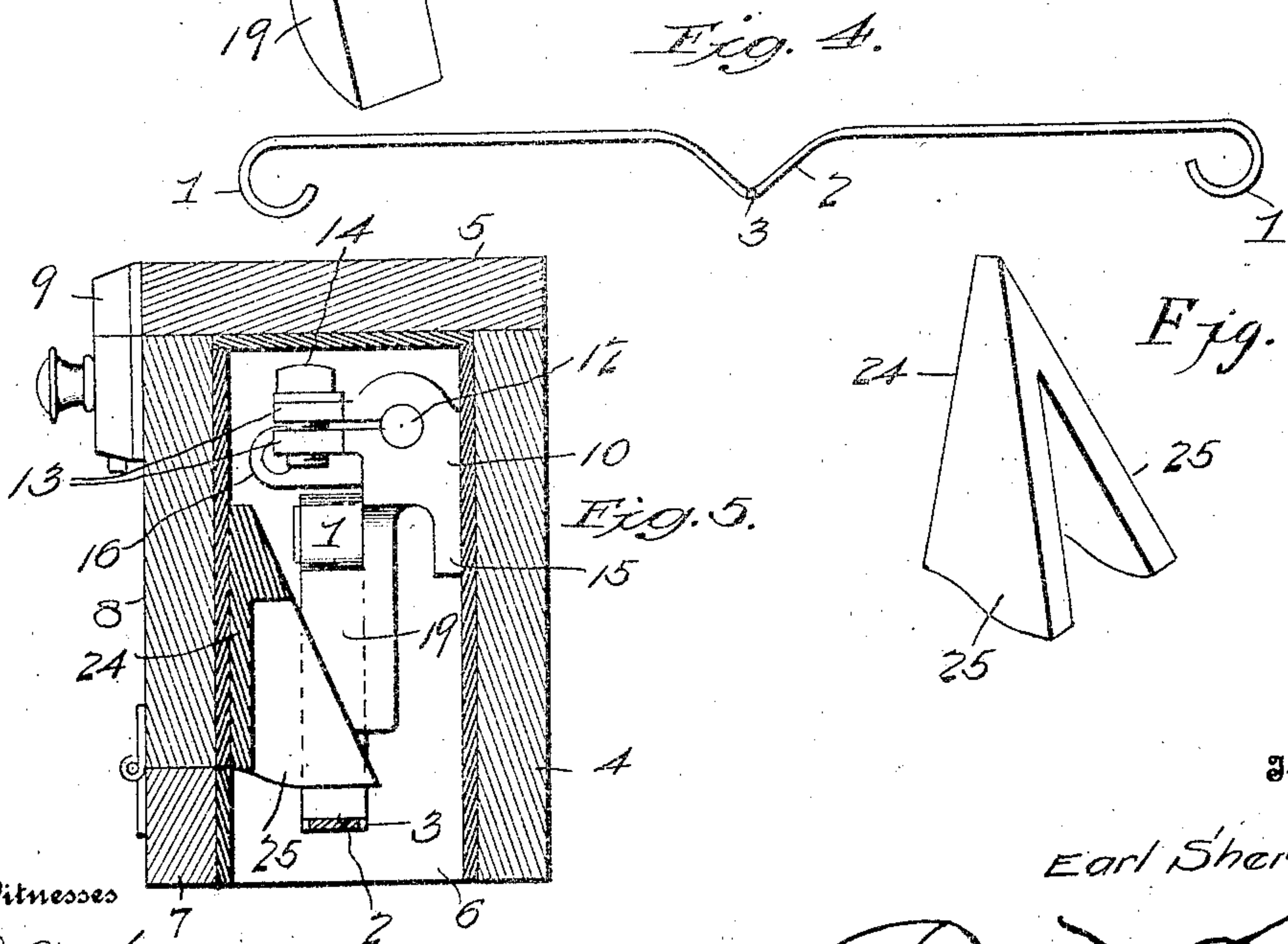
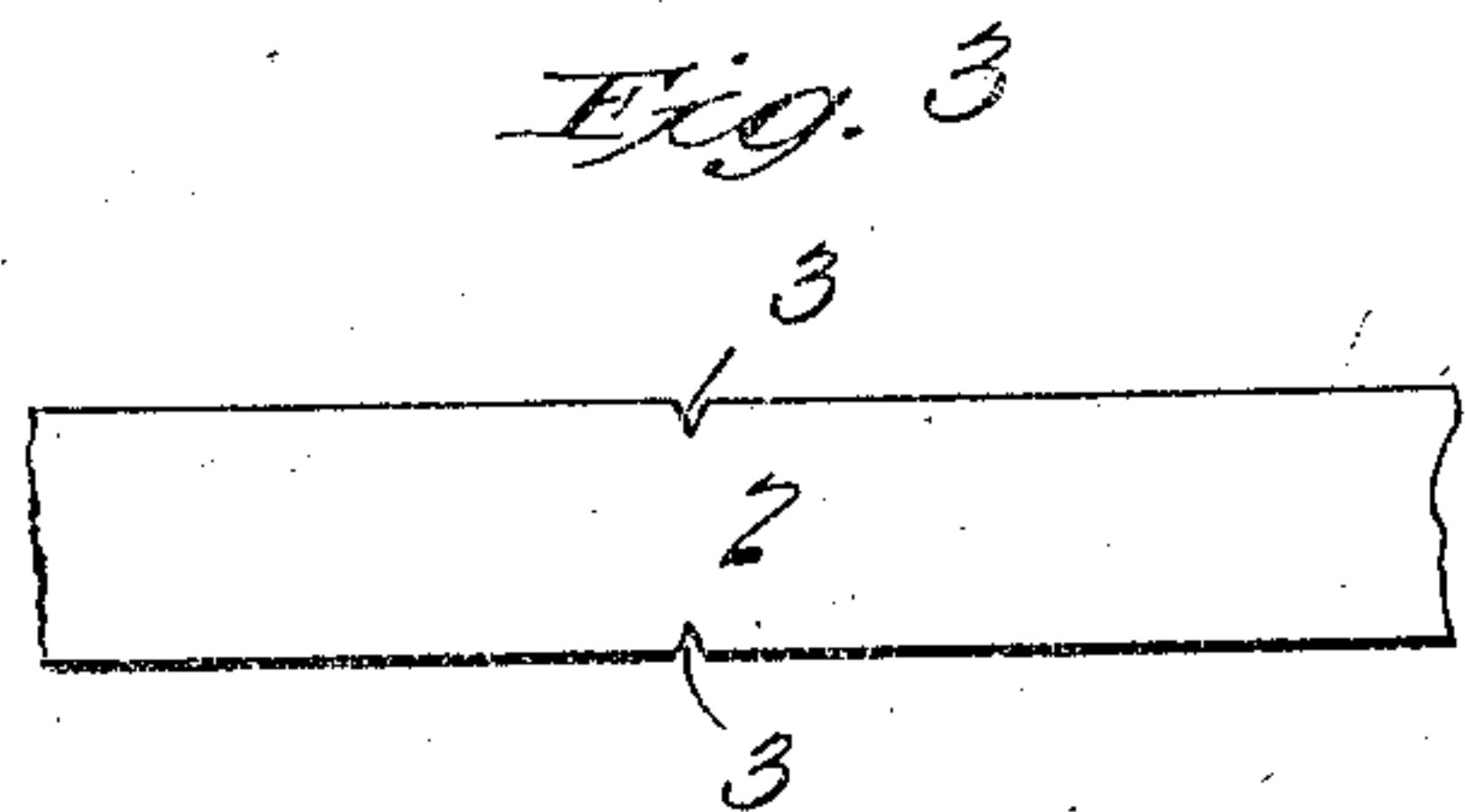
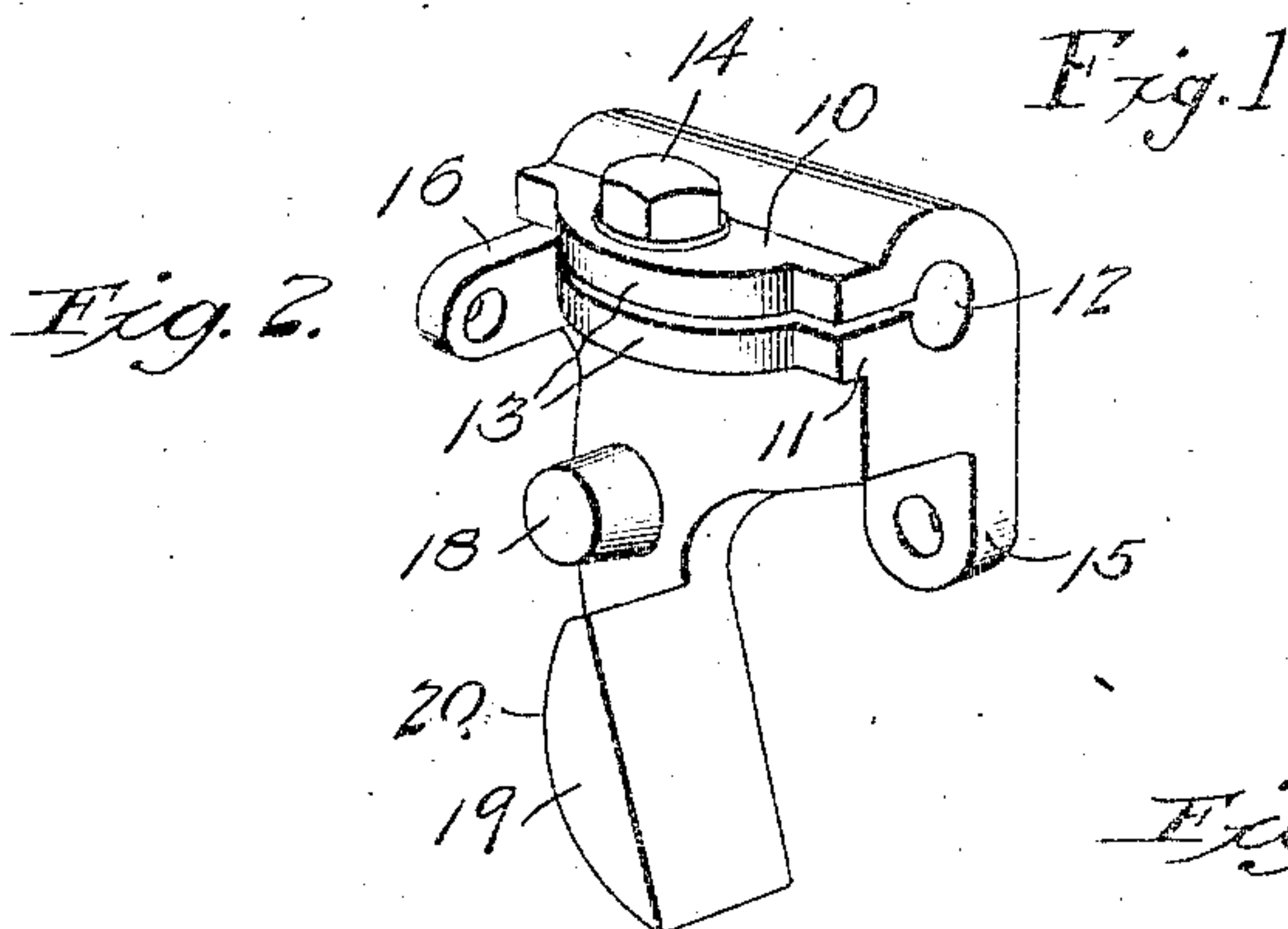
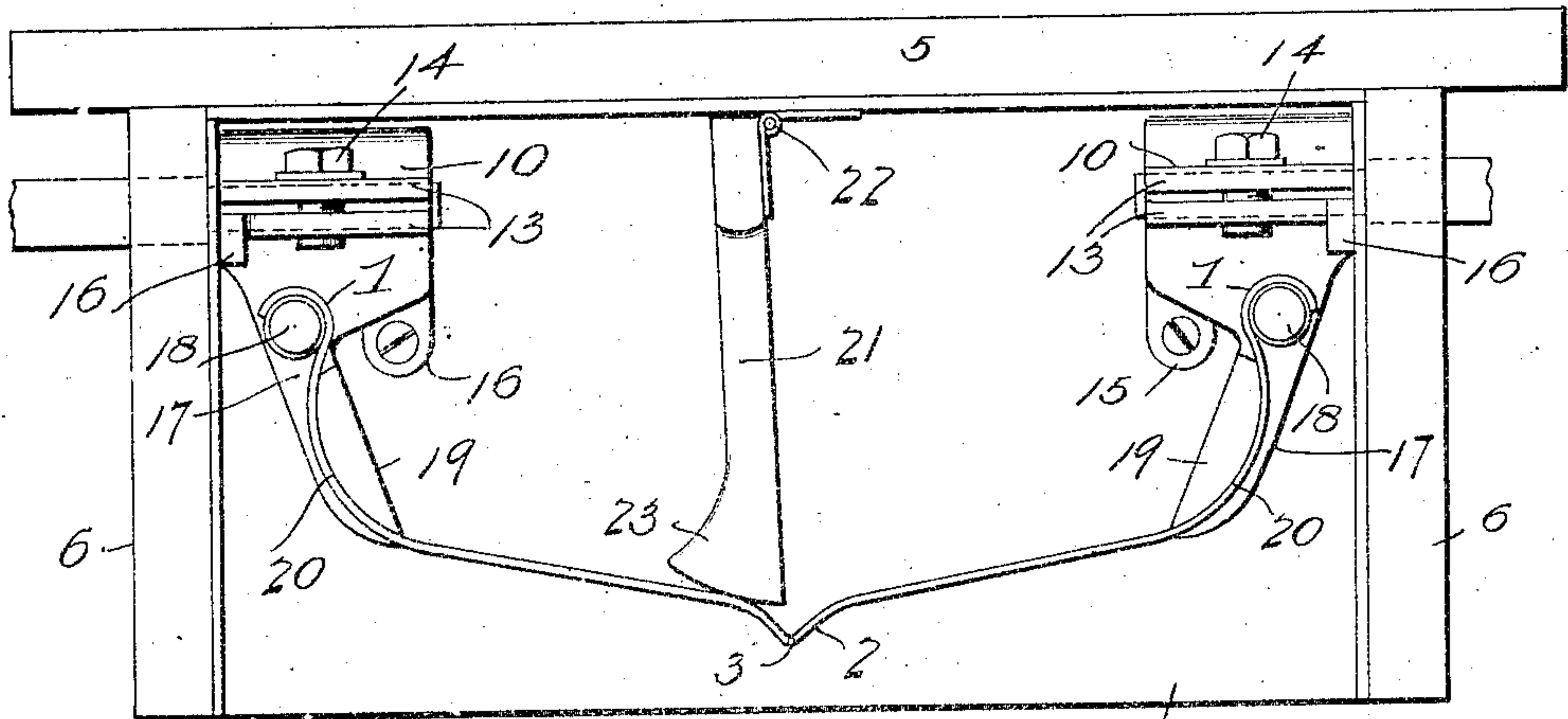
E. SHERWOOD.

FUSE BOX.

APPLICATION FILED MAY 18, 1908.

929,506.

Patented July 27, 1909.



Witnesses

J. L. Merckley
O. C. Crocker.

Inventor

Earl Sherwood

By *Reynold M. Smith*
Attorney

UNITED STATES PATENT OFFICE.

EARL SHERWOOD, OF HONESDALE, PENNSYLVANIA.

FUSE BOX.

No. 929,506.

Specification of Letters Patent.

Patented July 27, 1909.

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To all whom it may concern:

Be it known that I, EARL SHERWOOD, a citizen of the United States, residing at Honesdale, in the county of Wayne and State of Pennsylvania, have invented a certain new and useful Fuse-Box, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to fuse boxes, the object of the invention being to provide a simple, cheap and practical fuse box including means for holding the fuse and also a fuse of novel construction so combined with the fuse holders that when the fuse is burned in two, the separated parts of the fuse automatically swing downward by gravity away from each other, being assisted in this operation by the explosion occurring at the time the separation takes place between the parts of the fuse, such separation between the parts of the fuse avoiding the objectionable arcing of the current across the space between the broken and separated portions of the fuse.

A further object of the invention is to provide means for giving a contact of large superficial area to the terminal portions of the fuse; also means for holding the fuse under tension and preventing the accidental dislodgment thereof.

A further object of the invention is to do away with the objectionable arcing, incident to the use of fixed fuses and other fuses which are thrown apart by springs or other appliances.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination and arrangement of parts as herein fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a front elevation of a fuse box embodying the present invention with the front or cover thereof removed to show the internal construction. Fig. 2 is a detail perspective view of one of the fuse holders. Fig. 3 is a plan view of the central portion of the fuse. Fig. 4 is an edge view of the fuse. Fig. 5 is a vertical cross section through the fuse box, showing a modified form of tension device. Fig. 6 is a detail perspective view of the tension device illustrated in Fig. 5.

The fuse which forms part of this invention consists of an oblong strip of metal of

good electrical conductivity such as copper, the extremities of the strip being bent around to form open rolls or hooks 1 while the central portion of the strip is deflected to the same side as the rolls 1 to form a V-shaped offset or downward extension 2 which causes tension and firm contact of the fuse with the holders and the vertex of said deflected portion is weakened preferably by forming notches 3 in the opposite edges thereof as shown in Figs. 3 and 4, or other means for weakening the fuse at the central point, thereby forming a breaking or a fusing point which induces the breakage or fusing of the device at the middle point in the length of the fuse. The V-shaped deflected portion 2 also establishes downwardly converging faces so that when the fuse burns out and the explosion incident thereto takes place, the force of the explosion between the downwardly diverging portions 2 throws the separated ends of the fuse violently away from each other and assisted by gravity, the separated portions of the fuse swing downward to a pendent position on account of the nature of their connection with the holders hereinafter described. Thus the broken end portions of the fuse hang in a pendent position through the bottom of the fuse box which is left open for the fuse.

As illustrated in Figs. 1 and 5, the fuse box embodies a back 4, a top 5 and ends 6, all of said parts being rigidly connected. The fuse box also comprises a front 7 which is provided with a hinged section or door 8 adapted to be opened to give access to the interior of the box, the cover being adapted to be held closed by a catch 9 of any suitable description. In each upper corner of the fuse box there is arranged a holder, one of which is illustrated in detail in Fig. 2 wherein it is seen to comprise oppositely arranged clamping jaws 10 and 11 connected integrally together at one side of the conductor opening 12 and provided at the opposite side of said opening with lugs 13 which receive a clamp 14 which may be in the form of a bolt or screw whereby the end of the conductor may be firmly clamped in the holder. The holder is also provided with attaching lugs 15 and 16 to receive fasteners by which the holder is secured to the inside of the box in the corner thereof, as shown in Fig. 1. Each holder is also provided with a pendent arm or foot 17 and projecting outwardly from said foot is a

pin 18 adapted to receive one of the terminal hooks or rolls at the end of the fuse above described. Below the pin or stud 18 the arm is provided with a forwardly extending flange 19 having an arcuate or curvilinear face 20 against which a portion of the fuse is adapted to bear flatwise after passing the hook or roll 1 around the pin or stud 18. It will also be observed that the pin or stud 18 is made slightly tapering gradually increasing in size toward the base thereof, so that as the hook of the fuse is forced inward over the pin 18, it is bound tightly around the said pin or stud, thereby insuring close and continuous contact between the fuse and said pin or stud. Also the portion of the fuse adjacent to the hook 1 is caused to bear firmly against the curvilinear face 20 of the flange 19.

While the fuse box hereinafter described is completely illustrated and described in its complete form, heretofore, it may be desirable in some instances to employ a tension device to more securely hold the fuse in position. In such event, I may use the tension device shown in Fig. 1 as consisting of a bar 21 of non-conducting material having a jointed connection at 22 with the inside of the box and provided with a foot or enlargement 23 adapted to bear against the upper side of the fuse when swung downward as shown in Fig. 1. The tension bar 21 may be readily swung upward on its jointed connection with the fuse box to admit of the application of a new fuse whenever necessary.

Instead of the tension device illustrated in Fig. 1, I may use another form of tension device as shown in Figs. 5 and 6 consisting of a body 24 of non-conducting material having diverging arms 25 which are adapted to bear on top of the fuse when the hinged section or door 8 of the box is closed as shown in Fig. 5, the tension device shown in Fig. 6 being fastened to the inner side of the door 8 so as to swing therewith. Therefore, when the door is closed as shown in Fig. 5, the arms 25 of the tension device swing inward and downward until they rest upon or against the upper side of the fuse.

From the foregoing description it will be understood that when the fuse is burned in two, the separated portions thereof swing downward by gravity and hang in a pendent position from their respective holders, such downward movement being assisted by the impact of the explosion which takes place

between the downwardly converging portions.

The box can be made of non-conducting material, such as wood, lined with asbestos board, or of any of the non-conducting compositions.

I claim:—

1. In a fuse box, a fuse consisting of a metal strip having the opposite ends thereof bent into the form of hooks, and an intermediate portion thereof deflected to form downwardly converging faces, substantially as and for the purpose specified.

2. In a fuse box, a fuse consisting of a metal strip having the opposite ends thereof formed into hooks, and an intermediate portion thereof formed with a V-shaped downward offset which is centrally weakened, substantially as and for the purpose specified.

3. In a fuse box, a fuse holder comprising means for engaging the conductor, a pin or stud for holding one end of the fuse, and a flange for engaging a portion of the fuse adjacent to that portion engaged by the pin or stud.

4. In a fuse box, a fuse holder comprising a pin or stud for engaging one end of a fuse, and a flange arranged adjacent to said stud and provided with a curvilinear face adapted for contact with a portion of the fuse adjacent to that portion engaging the pin or stud.

5. In a fuse box, a fuse holder embodying a tapering pin or stud for engaging one end of a fuse, and a flange or shoulder adjacent to said stud adapted to engage a portion of the fuse adjacent to that portion engaged by the pin or stud, the arrangement being such that the fuse passes between the pin or stud and said shoulder, substantially as described.

6. In a fuse box, the combination with oppositely arranged fuse holders, of a fuse adapted to terminally engage said holders, and a pivoted and swinging tension device bearing against the fuse at a point intermediate said holders, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EARL SHERWOOD.

Witnesses:

H. P. HOWARD, Jr.,
Geo. C. Ross.